

proper intervals, we interpose our second dose just at a time when all the advantages derived from the emetic substances are about to wear off, and febrile action again begins to establish itself; at this critical moment we place our *veto* upon its further progress by a repetition of the dose. In the ordinary mode of administering emetics, all the advantages gained by their exhibition are lost by a discontinuance of them. Though the disease be partially subdued in the absence of the emetic, it gains sufficient strength again to become formidable. Though a victory is gained, all the advantages which might result from a pursuit and total rout of the enemy are slothfully abandoned.

To some of the profession, the practice of protracting the emetic action may be fraught with many and great evils, as tending to induce an irritable condition of the stomach, not a little to be dreaded. Such fears may be calmed by the fact, that when administered in the above small doses, we have never known them to have such an effect. This will be the more easily credible, when we assert that it is never necessary to administer more than from four to six grains before the *criterion* which induces its discontinuance supervenes. One or two copious alvine evacuations have always been our signal for its discontinuance. Such then are the additional views based upon the *secondary action of emetics* which we proposed to give, and upon which has been based a practice singularly successful in diseases of associated action.

New York, August, 1831.

ART. X. *Report of the Committee of the Board of Health of Charleston, respecting the Prevalence of Varioloid and Small-pox in that city during the year 1829.*

THE Committee of the Board of Health, appointed to report upon the prevalence of varioloid and small-pox during the last year, and for other purposes, respectfully Report,

That, to accomplish the duties assigned them satisfactorily, they sent the following Circular to the Physicians of Charleston:—

DEAR SIR,

Charleston, Nov. 25th, 1830.

Having been appointed a Committee of the Board of Health, to ascertain how far the varioloid and small-pox have prevailed, &c. &c. we respectfully, (in order to accomplish satisfactorily the intentions of the Board,) present for

your consideration the following interrogations, and earnestly request a reply as soon as possible.

Query 1st. Have you seen any cases of small-pox, and how many during the last year?

2d. Have all the symptoms and stages of small-pox been exhibited in any of your patients who have been vaccinated?

3d. Have you had any cases of varioloid, and how many?

4th. How do you distinguish varioloid from small-pox, and how from varicella or chicken-pox?

5th. Have you ever known varioloid to occur among those who had the natural, or been inoculated with small-pox, or have you ever seen varioloid in those persons who have been protected neither by inoculation from small-pox or vaccine?

6th. Have any of your patients with varioloid at any time of your practice, (stating the length of time you have practised,) died?

7th. Do you regard varioloid as a distinct disease, or as modified small-pox?

8th. Has your confidence in the protective power of the vaccine been lessened?

9th. Do you think that the careless manner in which persons are vaccinated by those who are not physicians, and are incapable of judging, ought to be considered a great evil, and a source calculated to lessen confidence in a valuable preventive of small-pox?

10th. During your experience have you not found it a common custom for persons not physicians to vaccinate their domestics and families, to save the expense of getting a physician?

11th. Do you not think that taking so much matter, as is usually the custom, from a pustule when there is only one, lessens the chance of a constitutional impression being made; and that it would be better to leave one pustule uninjured, to go through all the stages?

12th. Do you think at any period of life the vaccine would become diminished in its power on the system to resist the influence of small-pox?

13th. How do you distinguish a spurious from a genuine vaccine pustule?

With due consideration, we are, respectfully,

THOMAS Y. SIMONS, M. D. *Chairman.*

J. MOTTE CAMPBELL, M. D.

GEORGE LOGAN, M. D.

Committee

of

Board of Health.

Your Committee was prevented from giving an earlier report, in consequence of the medical gentlemen not having before sent answers to the above circular. They, however, now offer the following to the consideration of the Board. The Committee will first give a concise history of the small-pox epidemic; and secondly, offer the opinions which are entertained in Europe and America upon the value of vaccine as a means of controlling the ravages of small-pox.

In the performance of this important duty, they will be as concise as possible, avoiding the adoption of any speculative opinions, and

presenting only such views as seem derivable from actual experience and observation.

In February, 1830, the small-pox and varioloid first made their appearance; for a year or two previous, scarlatina, measles, and cymanche maligna, had prevailed, and for several years the small-pox had been at the Lazaretto, being imported cases. During the summer season, the small-pox and variola seemed to have disappeared, but, on the approach of winter, they again made their appearance.

The small-pox has assumed the various forms of confluent and distinct, and has been extremely severe in its type, and frequently fatal. The number of deaths, according to the records of the Board of Health, which does not include Charleston Neck, has been fifty-three.

Sometimes this disease, both in the confluent and distinct form, has gone through all the regular stadia with the pustules fully and properly developed, which your Committee deem unnecessary to describe. In others, however, the eruptions have assumed the appearance of measles; have, in the progress to filling and maturation, become flattened, being imperfectly filled with purulent matter, and, in their termination, they have dried up, forming no regular scabs, and showing beneath an inflamed, and in some instances a gangrenous aspect. In proportion with the imperfect development of the pustules, have there been great determination to, and inflammation of, the mucous tissues of the thorax and alimentary canal, and the tissues of the brain. This form has generally proved fatal. The varioloid, as it has been termed, was ushered in with great pain in the head and spine, accompanied frequently with delirium and gastrointestinal irritation: on the fourth day an eruption appeared on the cutaneous surface, when the symptoms just described began to subside. This eruption has assumed a very irregular appearance—the papular, vesicular, and pustular, all in many cases existing at the same time; and on the sixth day after their appearance, in place of maturing with fever as in small-pox, they have desiccated, leaving red splotches, in a few instances depressions, but more frequently prominences. There have been some modifications of this—the disease partaking partly of the character just described, and partly of small-pox. Sometimes successive crops of eruptions have appeared in the course of the disease: varicella has likewise prevailed contemporaneously with small-pox and varioloid, but the fever has been, (previous to the eruption,) very mild, short, and irregular in its duration, and afterwards only vesicles have appeared, which were of a few days continuance. Your Committee, however, are persuaded that many cases

of varicella have been confounded with varioloid. Regarding the distinct characteristics of these two diseases, there has been great discrepancy of opinion among medical gentlemen here, as well as in other portions of the world. Your Committee will decline, on a subject so unsettled in medical opinion, attempting to make any other diagnostic of variola, varioloid, or varicella, than the description just given, remarking,

1st. That varioloid is regarded by some physicians as small-pox, modified by vaccine and inoculation of small-pox.

2d. That a few physicians consider it as a distinct disease.

3d. As secondary small-pox, similar to the diseases which medical writers, antecedent to the introduction of vaccine, described as horn-pock, nurses-pock, siliquose-pock, sheep-pock, bladder-pock, &c.

4th. It has been suggested, that only varicella and small-pox have prevailed, there being an intimate relation between these two diseases, and that which has been termed varioloid is varicella, modified and increased in virulence by the epidemic influence of small-pox, as remittent fevers are aggravated in their type during the prevalence of epidemic stranger's fever.

From the answers which have been received to the circular, it appears that varioloid occurred among the vaccinated, the variolated, (or those who have been inoculated with small-pox;) among a few who have had small-pox naturally, two of whom have died; and in a few instances in those who have been protected neither by natural or inoculated small-pox, or vaccination, similar phenomena have been noticed in the small-pox epidemics which have appeared elsewhere. Your Committee can give no adequate idea of the number of cases of small-pox or varioloid which have occurred, not having received answers from all the practitioners of our city; and of those who did return answers, but few kept a register of their cases; the proportion, therefore, of those who have died, with those who have been sick, cannot be ascertained. Your Committee, however, are satisfied that the proportion of deaths from varioloid, in comparison with the number that have been sick, has been small. According to the register of the Board of Health, there have been but eight deaths from varioloid. Some of these may justly be ascribed to the severity of our winter, producing violent concomitant catarrhal affections; and some cases which have been called varioloid, there is good reason to believe were small-pox.

The second point of consideration which your committee will bring to your view, are the opinions which are entertained in Europe and America of the value of vaccine as a means of controlling the

ravages of small-pox. And this is the more imperatively called for, from the distrust which has been awakened in the efficacy of vaccine, since the prevalence of varioloid. It has been already stated that varioloid has attacked those who have been inoculated with small-pox, those who have had the small-pox naturally, those who have been vaccinated, and those who have been altogether unprotected. These facts have been observed, not only in Charleston, but in other portions of the United States, and in different countries of Europe, where varioloid and small-pox have prevailed. Now it is true that the varioloid occurs more frequently among the vaccinated. But it must be recollected that by far the greater proportion of individuals in Europe and America are protected by vaccine, and hence, by parity of reasoning, where varioloid does prevail, the greater proportion of cases must be among the vaccinated. It may likewise be called to mind that antecedent to vaccination secondary small-pox was of frequent occurrence, and has been fully and satisfactorily described by the medical writers of those days, under various appellations, as nurses-pock, sheep-pock, silquose-pock, &c. &c. &c.

With these prefatory remarks, your committee will offer you opinions derivable from the highest authorities, premising that the medical periodicals abound with confirmatory testimonials of the opinions which are now presented.

In 1805, in consequence of varioloid occurring after vaccination, and the distrust which was awakened in many as to its real value, the College of Physicians of London were instructed to investigate the subject and report. The following extracts from that report are offered:—

“Deeply impressed,” says that distinguished body, “with the importance of an inquiry which equally involves the lives of individuals, and the public prosperity, they have made every exertion to investigate the subject fully and impartially. In aid of the knowledge and experience of the members of their own body, they have applied, separately to each of the licentiates of the college; they have corresponded with the Colleges of Physicians of Dublin and Edinburgh, with the Colleges of Surgeons of London, Edinburgh, and Dublin; they have called upon the societies established for vaccination for an account of their practice, to what extent it has been carried on, and what has been the result of their experience, and they have, by public notice, invited individuals to contribute whatever information they had severally collected. They have, in consequence, been furnished with a mass of evidence, communicated with the greatest readiness and candour, which enables them to speak with confidence on all the principal points referred to them.”

After referring to the general use of, and confidence in, vaccination, the college goes on to state:—

"The security derived from vaccination against the small-pox, if not absolutely perfect, is as nearly so as can perhaps, be expected from any human discovery; for against several hundred thousand cases with the results of which the college have been made acquainted, the number of alleged failures has been surprisingly small. So much so as to form no reasonable objection to the general adoption of vaccination; for it appears that there are not nearly so many failures in a given number of vaccinated persons, as there are deaths in an equal number of persons inoculated for the small-pox. Nothing can more clearly demonstrate the superiority of vaccination over the inoculation of the small-pox, than this consideration; and it is a most important fact, which has been confirmed in the course of this inquiry, that in almost every case where the small-pox has succeeded vaccination, whether by inoculation or by casual infection, the disease has varied much from its ordinary course; it has neither been the same in violence nor in the duration of its symptoms, but has, with very few exceptions, been remarkably mild—as if the small-pox had been deprived, by the previous vaccination, of all its usual malignity."

This strong confirmation of the value of vaccine, emanating from a learned body, deriving its sources of information from all the most learned medical bodies of Great Britain and Ireland, has been fully sustained by the subsequent experience and observations of physicians there, on the Continent of Europe, and in the United States of America. As this report is intended not for the information of medical gentlemen, whose reading upon this important topic it is presumed, has made them fully acquainted with medical opinion throughout the world, but for the citizens, whose confidence in vaccine has been in some degree shaken, your committee must ask indulgence when they offer accumulated testimony confirmatory of the opinion of the College of Physicians of London, during the last twenty-five years. Dr. THOMSON, in an able communication to Sir J. M'GREGOR, the director-general of the medical department of Great Britain, &c. relative to small-pox, varioloid, and varicella, as it prevailed in Scotland, derivable from his own experience and observation, and of some of the most respectable physicians of that country, makes the following remarks:—

"It has been impossible to see the general mildness of the varioloid epidemic in those who had undergone the process of vaccination, and the severity, malignity, and fatality of the same disease in the vaccinated, and not to be convinced of the great and salutary powers of cow-pock in modifying small-pox, in those who were afterwards affected with this disease. Proofs cannot be imagined more convincing and satisfactory of the incalculable benefits bestowed upon mankind by its discoverer, than those I have had the pleasure of witnessing. It has been very agreeable, also, to observe that the terrors at first excited by the occurrence of the varioloid epidemic in the families of those who had undergone cow-pock inoculation, have gradually given way in the progress of the disease; and that the comparison of small-pox in their modified forms has

often forced a conviction of the advantages of cow-pock inoculation upon the minds even of the most ignorant and prejudiced, and induced them to seek protection for themselves and their offspring in a practice which they had formerly neglected or despised."

A committee of the "Academie Royale," of Paris, make in the conclusion of their report, the following remarks:—

"It is evident that when the utmost concessions are made, when all the causes of small-pox after vaccination which have been reported are considered authentic, it would be sufficient to compare these rare occurrences with the innumerable cases of the disease in those who have not been vaccinated; and also with the immense number of those who have undergone the process, and been exposed to contagion with impunity, in order to be convinced that vaccine inoculation is one of the most beautiful and useful discoveries that has ever been made, and that this invaluable antidote still preserves its virtues."

In an interesting history of the variolous and varioloid epidemic, which prevailed in Philadelphia in 1823 and 1824, by Drs. MITCHELL and BELL, the following important statement is made, of two hundred and forty-eight cases of small-pox and varioloid, which came under their notice—one hundred and fifty-five were unprotected, of whom eighty-five died; sixty-four vaccinated, of whom one died; nine inoculated, of whom three died; seven previous small-pox, of whom three died; thirteen unknown—no deaths. Now, here is clearly shown the ravages which have occurred to the unprotected, there being eighty-five deaths, while of the vaccinated only one; of the inoculated and previous small-pox, each three, proving that the vaccine made a milder form than any other. If there were a greater proportion of vaccinated than those who were inoculated, or had previous small-pox, who had varioloid, it must be remembered that the proportion of vaccinated to the proportion of inoculated exposed to varioloid, must have been as at least four to one; add to this the danger and fatality resulting from inoculation, and the mildness and innocency of vaccine, and its value is strikingly illustrated. In the concluding observations of a Committee of the Philadelphia Society, appointed to report on the variolous and varioloid disease, which prevailed in Philadelphia, in 1827, the following language is used.

"Thus we may, without the least want of candour, come to the conclusion, that only one death from small-pox after vaccination had occurred during the year 1827, among eighty thousand vaccinated persons, and during the prevalence of a most malignant and mortal small-pox, while several individuals have lost their lives from small-pox after they had already gone once through the disease. It appears then clearly that vaccination ought to lose nothing of the public confidence, and as a protection from the fatal effects of genuine small-pox, it may safely be asserted, it is in every sense to be preferred to inoculation."

In this latter opinion, your Committee most fully concur; and they are authorized to state, that such is the opinion of almost every physician in our city. It will now be proper to offer the opinions which have been advanced by Committees appointed by the Medical Society of South Carolina, and which were adopted and approved.

A Committee, in an interesting report upon the epidemic small-pox of 1817, as it existed in Charleston, state

“That their confidence in the efficacy of the vaccine as a preventive of small-pox continues undiminished, and they think it the only means by which the ravages of that disease can be effectually put a stop to. Proofs of its efficacy are continually presented to our view. They surround us on all sides. Did it not destroy the susceptibility to small-pox, every house would become an hospital. Scarcely would there be a family but would have to mourn the loss of some favourite member by its destructive influence; indeed, what must have been the situation of our city for many months past, where so many thousands have relied on it exclusively.”

Again, the Committee on the epidemic small-pox of 1824, declare that “vaccine inoculation, when properly and judiciously performed, still maintains the same confidence which has hitherto been reposed in it, as a protection against small-pox.”

Having, from accumulated testimony, which your Committee collected from the periodical and other medical works which have been published since the introduction of vaccine, (and among which they have seen none that does not admit it as the safest and most valuable means of checking the ravages of small-pox,) presented to your notice evidences from the highest authority of its value; they will consider some of the questions which were proposed in the circular, in the first part of this report, some of them having been already noticed.

1st, *Question 8th.* Has your confidence in the protective power of the vaccine been lessened? It has been answered by all, that although vaccine cannot be regarded as protecting from varioloid, it does, most generally, from small-pox after vaccination, and not one death; and in these few cases the vaccine was supposed to be genuine, only from the patient's having been vaccinated by physicians, and not from a personal knowledge of the cases, and that it is decidedly the most salutary means of checking the ravages of small-pox.

Q. 9th. Do you think that the careless manner in which persons are vaccinated by those who are not physicians, and are incapable of judging, ought to be considered a great evil and a source calculated to lessen confidence in a valuable preventive of small-pox?

To this, every physician from whom the Committee have had information concurs. They further state, to this cause may justly be ascribed a number of the cases of varioloid and small-pox, which

occur after vaccination, and that it has tended materially to impair the confidence in vaccine.

Q. 10th. During your experience, have you not found it a common custom for persons, not physicians, to vaccinate their domestics and families, to save the expense of getting a physician? It has been responded, that few heads of families employ a physician to vaccinate their servants, and many even vaccinate their children.

Q. 11th. Do you not think that taking so much matter as is usually the custom, from a pustule when there is only one, lessens the chance of a constitutional impression being made; and that it would be better to leave one pustule uninjured than to go through all the stages?

It is generally believed, that taking too much matter from one pustule might prevent its full and proper development. That it would be better to make two or three incisions on one arm, and when there is only one pustule, to take as little as possible from it as a matter of prudence—the fact of its injurious tendency being certainly and positively ascertained.

Q. 12th. Do you think at any period of life the vaccine would become diminished in its power on the system, to resist the influence of small-pox?

Considerable discrepancy of opinion exists among the physicians of Charleston, as well as in other portions of the United States, and in Europe, upon this subject. It must, at present, be considered as only speculative, sufficient data not having been obtained, by which we could in any manner come to a positive conclusion.

It is generally recommended to re-vaccinate whenever small-pox epidemic occurs, as a matter of security; for the second vaccination will prove whether the first was efficacious or not. For if the first vaccination be efficacious, the second, like varioloid, will run through all its stages and desiccate, and not maturate on the sixth day after the eruption.

Q. 13th. How do you distinguish a spurious from a genuine vaccine pustule?

The only answer to this, which the committee can make, is to describe what constitutes genuine vaccine, and whatever differs materially from this, may be considered as spurious. On the third day after the introduction of the vaccine virus, a red cone-shaped pimple is observed—from the fourth to the sixth, seventh, and eighth days, a transparent, limpid fluid collects, and an areola of inflammation appears around the pustule. From the eighth to the fourteenth the fluid becomes turbid and of a purulent nature—the scab forms in the

centre of the pustule—the circular inflammation is increased and accompanied with fever. From the fourth to the sixteenth, eighteenth, and twentieth days, the scab is completely formed and drops off, leaving a scar having many depressions of a cellular appearance.

It must be remarked, that the stadia in the development of a vaccine pustule are lengthened or diminished in some degree by temperature, being lengthened by cold and lessened by heat. The vaccine virus should be used when it is perfectly limpid and transparent.

Such are the testimonials which your committee have been enabled to bring to your view. They have not given the individual opinions of the medical gentlemen who politely sent answers to the circular, as they would occupy too much space; but they believe they have fairly represented their opinions.

It will thus be seen, from the according testimony of the most scientific and observing physicians in Europe and America, that vaccine has been regarded as one of the greatest blessings conferred upon the human race.

If we look for perfection in any thing, we will be grievously mistaken; but it would be unwise and unphilosophical, because a discovery could not accomplish all that we could wish, that it should be discarded.

The correct method of ascertaining the value of any discovery, is to compare it with others, and if worse, to reject, if better, to adopt. Now your committee maintain, that the evidences which have been brought to your view, prove beyond all matter of controversy, that the introduction of vaccine, although it has not extirpated small-pox, has disarmed it of most of its terrors. Let us observe how many human beings throughout the world are protected alone by vaccine from small-pox, and it becomes a matter of wonder that so many escape that Protean disorder, and of those who do not escape, how few suffer, when it is proved in the unprotected to be most virulent in its form, and most fatal in its consequences. But when we come to consider the many abuses to which vaccination has been exposed, from the number of individuals who have vaccinated, who are incapable of judging what is genuine vaccine, and from the carelessness oftentimes of physicians in not accurately observing its different developments, our confidence in its salutary influence becomes greatly increased.

Before concluding, your committee, by way of recapitulation, would remark—

1st. That since the introduction of vaccine, small-pox has been much less frequent, and the number of deaths from it greatly diminished.

2d. That the inoculated with small-pox, and the vaccinated, have the varioloid with equal virulence, and if the number of vaccinated who have the varioloid be greater, it may be justly ascribed to the fact, that the greater proportion of individuals are protected by vaccine. Furthermore, varioloid sometimes occurs among those who have had the natural small-pox, as well as those who are altogether unprotected.

3d. That previous to the introduction of vaccination or inoculation with small-pox, secondary small-pox occurred, and presenting forms different from the genuine small-pox, but partaking of its character.

4th. That in a great number of cases where small-pox has occurred after vaccination, and even varioloid, it has arisen from the vaccine virus being spurious.

5th. That great carelessness has been exhibited in vaccination, it being regarded as a simple operation, and has, therefore, been performed by those who are incapable of deciding whether the vaccine virus has gone through its regular stages.

6th. That although vaccine does not exempt all persons from what is termed varioloid, it does the greater proportion, and must be considered as the most efficient and safe plan of checking the ravages of small-pox, and therefore should be continually practised. Finally, it may be proper to remark that vaccination, in place of diminishing in public confidence from time and experience, is increasing. It is becoming general, not only in Europe and America, and the colonies, but in India; and the present Turkish sultan has had his children vaccinated, as an example to, and a means of introducing it among, his people. In several kingdoms of Europe, vaccination is conducted under the auspices of government. In the United States it is generally recommended, and in a few large cities vaccine institutions have been instituted, but it is much to be deplored that a means so simple, and yet so signal in its beneficial effects, should still be so neglected. To show how efficient vaccine is when properly conducted, the following out of many other evidences are presented to your view.

Dr. LUDERS remarks, that of two hundred and twenty-three thousand nine hundred and thirty-nine vaccinated, between 1801 and 1822, in Holstein, where the measures of the government ensure a perfect vaccination, there had occurred, down to 1824, only two cases of small-pox, and that in Denmark, among four hundred and forty-seven thousand six hundred and five vaccinated, only one such case has been met with.

Again, in the Orphan Institution of Charleston, having one hundred

and fifty souls, all of whom, except the officers and servants, are children, Dr. LOGAN, the physician to that institution, remarks, "Not a single case of small-pox or varioloid has occurred. All of the children are vaccinated by him, and if they have been previously subjected to that process, are re-vaccinated, to test the efficiency of the previous vaccination; and these children have been allowed to have communication with the citizens generally."

In conclusion, your committee would strenuously urge the propriety of vaccine institutions being established in the principal cities in our state, and would strongly recommend the citizens never to neglect having all under their care vaccinated. It is with pleasure they state that the city council have made an honourable and worthy advance in this important measure, and it is earnestly to be desired that what they have begun may be more generally and extensively adopted.

Respectfully submitted,

THOMAS Y. SIMONS, M. D., <i>Chairman.</i>	} <i>Committee.</i>
J. MOTTE CAMPBELL, M. D.	
GEORGE LOGAN, M. D.	